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UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

6321074

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November 20, 2001

Apparatus and method for reducing oscillator frequency pulling during AM modulation

REISSUE: November 19, 2003 - Reissue Application filed Ex. Gp.: 2684; Re. S.N. 10/717,426 (O.G. February 17, 2004)

APPL-NO: 336912 (09)

FILED-DATE: June 21, 1999

GRANTED-DATE: November 20, 2001

CORE TERMS: frequency, pulling, modulation, filter, synthesizer, oscillator, spurious, mixer, divider, architecture ...

6,321,074 OR 6321074

LEXIS-NEXIS
Library: PATENT
File: CASES

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6,321,074 OR 6321074

LEXIS-NEXIS
Library: PATENT
File: JNLS

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6,321,074 OR 6321074

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Library: NEWS
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      S4         1   PN=US 6321074
? t 4/39/1

 4/39/1
DIALOG(R)File 345:Inpadoc/Fam.& Legal Stat
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19708188
Basic Patent (No,Kind,Date): CA 2298926 AA 20000818    <No. of Patents: 011>
Patent Family:
    Patent No     Kind  Date       Applic No    Kind  Date
    CA 2298926      AA  20000818    CA 2298926     A   20000217  (BASIC)
    CA 2298927      AA  20000818    CA 2298927     A   20000217
    CA 2298928      AA  20000818    CA 2298928     A   20000217
    CA 2298929      AA  20000818    CA 2298929     A   20000217
    CA 2298992      AA  20000818    CA 2298992     A   20000218
    CA 2298926      C   20021231    CA 2298926     A   20000217
    CA 2298928      C   20030729    CA 2298928     A   20000217
    US 6297708      BA  20011002    US 506169      A   20000217
    US 6321074      BA  20011120    US 336912      A   19990621
    US 6373236      BA  20020416    US 433331      A   19991103
    US 6417729      BA  20020709    US 491538      A   20000126
Priority Data (No,Kind,Date):
    US 120641 P  19990218
    US 433331 A  19991103
    US 336912 A  19990621
    US 491538 A  20000126
    US 325050 A  19990603
    US 506169 A  20000217

PATENT  FAMILY:
CANADA (CA)
  Patent (No,Kind,Date):  CA 2298926  AA  20000818
    TEMPERATURE COMPENSATED POWER DETECTOR DETECTEUR DE PUISSANCE A
      COMPENSATION DE TEMPERATURE (English; French)
    Patent Assignee:  ITRON INC  (US)
    Author (Inventor):  SADOWSKI ERIC  (US); LEMAY NORMAND T JR  (US)
    Priority (No,Kind,Date):  US 120641  P  19990218; US 433331  A
      19991103
    Applic (No,Kind,Date):  CA 2298926  A  20000217
    IPC: *  G01R-021/14
    Language of Document:  English
  Patent (No,Kind,Date):  CA 2298927  AA  20000818
    APARATUS AND METHOD FOR REDUCING OSCILLATOR FREQUENCY PULLING DURING AM
      MODULATION APPAREIL ET METHODE POUR REDUIRE L'ENTRAINEMENT DE
      FREQUENCE EN MODULATION D'AMPLITUDE (English; French)
    Patent Assignee:  ITRON INC  (US)
    Author (Inventor):  LEMAY NORMAND T JR  (US)
    Priority (No,Kind,Date):  US 120641  P  19990218; US 336912  A
      19990621
    Applic (No,Kind,Date):  CA 2298927  A  20000217
    IPC: *  H03C-001/04
    Language of Document:  English
  Patent (No,Kind,Date):  CA 2298928  AA  20000818
    LINEAR POWER CONTROL LOOP BOUCLE DE COMMANDE LINEAIRE DE PUISSANCE
      (English; French)
    Patent Assignee:  ITRON INC  (US)
    Author (Inventor):  LOFSTAD ERIC W  (US); MACCONNELL JOHN W  (US);
      SADOWSKI ERIC  (US); BRUNN BRIAN T  (US); LEMAY NORMAND T JR  (US)
    Priority (No,Kind,Date):  US 120641  P  19990218; US 491538  A
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20000126
Applic (No,Kind,Date): CA 2298928 A 20000217
IPC: * H03G-003/20
Language of Document: English
Patent (No,Kind,Date): CA 2298929 AA 20000818
TEMPERATURE COMPENSATED CONSTANT CURRENT SOURCE SOURCE DE COURANT CONSTANT A COMPENSATION DE TEMPERATURE (English; French)
Patent Assignee: ITRON INC (US)
Author (Inventor): LEMAY NORMAND T JR (US)
Priority (No,Kind,Date): US 120641 P 19990218; US 325050 A 19990603
Applic (No,Kind,Date): CA 2298929 A 20000217
IPC: * G05F-001/567
Language of Document: English
Patent (No,Kind,Date): CA 2298992 AA 20000818
TEMPERATURE COMPENSATED HIGH PERFORMANCE OSCILLATOR OSCILLATEUR A COMPENSATION THERMIQUE A HAUT RENDEMENT (English; French)
Patent Assignee: ITRON INC (US)
Author (Inventor): LEMAY NORMAND T JR (US)
Priority (No,Kind,Date): US 120641 P 19990218
Applic (No,Kind,Date): CA 2298992 A 20000218
IPC: * H03B-005/04; H03B-005/30
Language of Document: English
Patent (No,Kind,Date): CA 2298926 C 20021231
TEMPERATURE COMPENSATED POWER DETECTOR DETECTEUR DE PUISSANCE A COMPENSATION DE TEMPERATURE (English; French)
Patent Assignee: ITRON INC (US)
Author (Inventor): LEMAY NORMAND T JR (US); SADOWSKI ERIC (US)
Priority (No,Kind,Date): US 120641 P 19990218; US 433331 A 19991103
Applic (No,Kind,Date): CA 2298926 A 20000217
IPC: * G01R-021/14
Language of Document: English
Patent (No,Kind,Date): CA 2298928 C 20030729
LINEAR POWER CONTROL LOOP BOUCLE DE COMMANDE LINEAIRE DE PUISSANCE (English; French)
Patent Assignee: ITRON INC (US)
Author (Inventor): LOFSTAD ERIC W (US); SADOWSKI ERIC (US); MACCONNELL JOHN W (US); BRUNN BRIAN T (US); LEMAY NORMAND T JR (US)
Priority (No,Kind,Date): US 120641 P 19990218; US 491538 A 20000126
Applic (No,Kind,Date): CA 2298928 A 20000217
IPC: * H03G-003/20
Language of Document: English

CANADA (CA)
Legal Status (No,Type,Date,Code,Text):

CA 2298926	P	20030403	CA EEER	EXAMINATION REQUEST
		DATE: 20010504		
CA 2298927	P	20030403	CA EEER	EXAMINATION REQUEST
		DATE: 20010504		
CA 2298928	P	20030403	CA EEER	EXAMINATION REQUEST
		DATE: 20010504		
CA 2298929	P	20030820	CA FZDE	DEAD
		DATE: 20030217		
CA 2298992	P	20030403	CA EEER	EXAMINATION REQUEST
		DATE: 20010504		

UNITED STATES OF AMERICA (US)
Patent (No,Kind,Date): US 6297708 BA 20011002

Temperature compensated high performance oscillator (English)
Patent Assignee: ITRON INC (US)
Author (Inventor): LEMAY NORMAND T (US)
Priority (No,Kind,Date): US 506169 A 20000217; US 120641 P 19990218
Applic (No,Kind,Date): US 506169 A 20000217
National Class: * 331176000; 331117000R; 331116000R; 331156000; 331074000; 331034000; 331175000
IPC: * H03B-005/00
Language of Document: English

Patent (No,Kind,Date): US 6321074 BA 20011120
Apparatus and method for reducing oscillator frequency pulling during AM modulation (English)
Patent Assignee: ITRON INC (US)
Author (Inventor): LEMAY NORMAND T (US)
Priority (No,Kind,Date): US 336912 A 19990621; US 120641 P 19990218
Applic (No,Kind,Date): US 336912 A 19990621
National Class: * 455260000; 455108000; 455075000; 455076000; 455112000; 455118000; 455119000; 332363000; 332127000
IPC: * H04B-001/06
Language of Document: English

Patent (No,Kind,Date): US 6373236 BA 20020416
Temperature compensated power detector (English)
Patent Assignee: ITRON INC (US)
Author (Inventor): LEMAY JR NORMAND T (US); SADOWSKI ERIC (US)
Priority (No,Kind,Date): US 433331 A 19991103; US 120641 P 19990218
Applic (No,Kind,Date): US 433331 A 19991103
National Class: * 324095000; 324648000; 324600000; 324685000; 324721000; 324072500; 323369000; 323907000
IPC: * G01R-023/04; G01R-027/04; G01R-027/00; G01R-027/26; H03M-001/00
Language of Document: English

Patent (No,Kind,Date): US 6417729 BA 20020709
Linear power control loop (English)
Patent Assignee: ITRON INC (US)
Author (Inventor): LEMAY NORMAND T (US); BRUNN BRIAN T (US); MACCONNELL JOHN W (US); SADOWSKI ERIC (US); LOFSTAD ERIC W (US)
Priority (No,Kind,Date): US 491538 A 20000126; US 120641 P 19990218
Applic (No,Kind,Date): US 491538 A 20000126
National Class: * 330129000; 330140000
IPC: * H03G-003/20
Language of Document: English

UNITED STATES OF AMERICA (US)
Legal Status (No,Type,Date,Code,Text):

US 6297708	P	19990218	US AA	PRIORITY (US PROVISIONAL APPLICATION) US 120641 P 19990218
US 6297708	P	20000217	US AE	APPLICATION DATA (PATENT) (APPL. DATA (PATENT)) US 506169 A 20000217
US 6297708	P	20000217	US AS	ASSIGNMENT DATE: 20000216 ; ITRON, INC. 2401 NORTH STATE STREET WASECA MINNESO ; ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LEMAY, NORMAND T.;REEL/FRAME:010571/0522
US 6297708	P	20011002	US BA	PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)
US 6297708	P	20020326	US CC	CERTIFICATE OF CORRECTION

US 6321074 P 19990218 US AA PRIORITY (US PROVISIONAL APPLICATION)
US 120641 P 19990218
US 6321074 P 19990621 US AE APPLICATION DATA (PATENT) (APPL. DATA (PATENT))
US 336912 A 19990621
US 6321074 P 20011120 US BA PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)
US 6321074 P 20040217 US RF REISSUE APPLICATION FILED (REISSUE APPL. FILED)
DATE: 20031119
US 6373236 P 19990218 US AA PRIORITY (US PROVISIONAL APPLICATION)
US 120641 P 19990218
US 6373236 P 19991103 US AE APPLICATION DATA (PATENT) (APPL. DATA (PATENT))
US 433331 A 19991103
US 6373236 P 19991103 US AS ASSIGNMENT
DATE: 19991027 ; ITRON, INC. 2401 NORTH STATE STREET WASECA MINNESO ; ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LEMAY, NORMAND T.JR.;SADOWSKI, ERIC;REEL/FRAME:010374/0178
US 6373236 P 20020416 US BA PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)
US 6373236 P 20021105 US CC CERTIFICATE OF CORRECTION
US 6417729 P 19990218 US AA PRIORITY (US PROVISIONAL APPLICATION)
US 120641 P 19990218
US 6417729 P 20000126 US AE APPLICATION DATA (PATENT) (APPL. DATA (PATENT))
US 491538 A 20000126
US 6417729 P 20000424 US AS ASSIGNMENT
ITRON, INC. 2401 NORTH STATE STREET WASECA MINNESO ; ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LEMAY, NORMAND T.;BRUNN, BRIAN T.;MACCONNELL, JOHN W.;AND OTHERS;REEL/FRAME:010727/0096;SIGNING DATES FROM 19991221 TO 20000121
US 6417729 P 20020709 US BA PATENT (NO PREVIOUS PRE-GRANT PUBLICATION)
US 6417729 P 20030128 US CC CERTIFICATE OF CORRECTION